



## OM 352UNI



The OMM 352 model series are small 3,5-digit panel programmable instruments designed for maximum usefulness and user comfort while maintaining its fair price.

Type OML 352UNI is a multifunction instrument with the option of configuration for 8 different input options, easily configurable in the instrument menu. The instrument is based on a single-chip microcontroller with an A/D converter, which ensures good accuracy, stability and easy operation of the instrument.

### UNIVERSAL INSTRUMENT

- 3,5-digit programmable projection
- Multifunction input UNI (DC, PM, RTD, T/C, DU)
- Digital filters, Linearization
- Size of DIN 96 x 48 mm
- Power supply 10...30 V AC/DC; 80...250 V AC/DC
  
- Option
  - Comparators - Data output - Analog output
  - Three-color display - 20 mm

### OM 352UNI

DC VOLTMETER AND AMMETER  
 PROCESS MONITOR  
 OHMMETER  
 THERMOMETER FOR PT/CU/NI/THERMOCOUPLES  
 DISPLAY UNIT FOR LINEAR POTENTIOMETERS

### OPERATION

The instrument is set and controlled by five buttons located on the front panel. All programmable settings of the instrument may be performed in three adjusting modes:

**LIGHT MENU** is protected by optional number code and contains solely items necessary for instrument setting.

**PROFI MENU** is protected by optional number code and contains complete instrument setting.

**USER MENU** may contain arbitrary items from the programming menu (LIGHT/PROFI), which determine the right (see, change). Access w/o password.

Standard equipment is the OM Link interface, which together with operation program enables modification and filing of all instrument settings as well as performing firmware updates (with OML cable). The program is also designed for visualization and filing of measured values from more instruments.

All settings are stored in the EEPROM memory (settings hold even after the instrument is switched off).

### OPTION

**COMPARATORS** are assigned to monitor two limit values with relay output. The limits have adjustable hysteresis within the full range of the display as well as selectable delay of the switch-on in the range of 0...99,9 s. Reaching the preset limits is signalled by LED and simultaneously by the switch-on of the relevant relay.

**DATA OUTPUTS** are for their rate and accuracy suitable for transmission of the measured data for further projection or directly into the control systems. We offer an isolated RS232 and RS485 with the ASCII/PROFIBUS protocols.

**ANALOG OUTPUTS** will find their place in applications where further evaluating or processing of measured data is required in external devices. We offer universal analog output with the option of selection of the type of output - voltage/current. The value of analog output corresponds with the displayed data. Its type and range are selectable in menu.

### STANDARD FUNCTIONS

#### PROGRAMMABLE PROJECTION

**Selection:** of input type and measuring range

**Setting:** manual, optional projection on the display may be set in menu for both limit values of the input signal, e.g. input 0...19,99 V > 0...150,0

**Projection:** ±1999

#### EXCITATION

**Range:** 5...24 VDC/1,2 W, for feeding sensors and transmitters

#### COMPENSATION

**Of conduct (RTD):** automatic (3- or 4-wire) or manual in menu (2-wire)

**Of conduct in probe (RTD):** internal connection (conduct resistance in measuring head)

**Of CJC (T/C):** manual or automatic, in menu it is possible to perform selection of the type of thermocouple and compensation of cold junctions, which is adjustable or automatic

#### FUNCTIONS

**Linearization:** through linear interpolation in 25 points (solely via OM Link)

**Tare:** designed to reset display upon non-zero input signal

#### DIGITAL FILTERS

**Exponential average:** from 2...100 measurements

**Rounding:** setting the projection step for display

#### EXTERNAL CONTROL

**Hold:** display/instrument blocking

**Lock:** control keys blocking

**Tare:** tare activation

## TECHNICAL DATA

INPUT			
<b>DC</b>	Range	optional in configuration menu	
		0...20 mV > 10 MΩ	Input 4
		0...60 mV > 10 MΩ	Input 3
		0...1 000 mV 1.25 MΩ	Input 1
<b>PM</b>	Range	optional in configuration menu	
		0...20 mA < 200 mV	Input 5
		4...20 mA < 200 mV	Input 5
		0...2 V 10 MΩ	Input 4
		0...5 V 1.25 MΩ	Input 1
		0...10 V 1.25 MΩ	Input 1
<b>OHM</b>	Range	fixed - by order	
		0...300 Ω	
		0...1.5 kΩ	
		0...3 kΩ	
		0...30 kΩ	
	Connect.	2, 3 or 4 wire	
<b>RTD</b>	Type	fixed - by order	
		EU > 100/500/1 000 Ω, with 3 850 ppm	-50°...450°C
		US > 100 Ω, with 3 920 ppm/°C	-50°...450°C
		RU > 50 Ω with 3 910 ppm/°C	-200°...1100°C
		RU > 100 Ω with 3 910 ppm/°C	-200°...450°C
			Connect.
<b>Ni</b>	Type	fixed - by order	
		Ni 1 000/10 000 with 5 000 ppm/°C	-50°...250°C
		Ni 1 000/10 000 with 6 180 ppm/°C	-50°...250°C
	Connect.	2, 3 or 4 wire	
<b>Cu</b>	Type	fixed - by order	
		Cu 50/100 with 4 260 ppm/°C	-50°...200°C
		Cu 50/100 with 4 280 ppm/°C	-200°...200°C
	Connect.	2, 3 or 4 wire	
<b>T/C</b>	Type	optional in configuration menu	
		J (Fe-CuNi) Input 3	-100°...900°C
		K (NiCr-Ni) Input 3	-100°...1 300°C
		T (Cu-CuNi) Input 4	-200°...400°C
		E (NiCr-CuNi) Input 3	-100°...690°C
		B (PtRh30-PtRh6) Input 4	700°...1 820°C
		S (PtRh10-Pt) Input 4	100°...1 760°C
		R (Pt13Rh-Pt) Input 4	100°...1 740°C
		N (Omegalloy) Input 3	0°...1 300°C
		L (Fe-CuNi) Input 3	-100°...900°C
			Connect.
<b>DU</b>	Potent. power supply	2.5 VDC/6 mA, Potentiometer resistance > 500 Ω	
		External input 1 input, on contact	
The following functions can be assigned:			
	OFF	input off	
	HLD.	display stop	
	LOC.	control keys blocking	
	TAR.	tare activation	

### PROJECTION

Display: ±1999, single color 7-segment LED;  
-999...9999, 3-color 7-segment LED  
Digit height: 14 or 20 mm  
Display color: red or green (height 14 mm)  
red/green/orange (height 20 mm)  
Decimal point: adjustable - in menu  
Brightness: adjustable - in menu

### INSTRUMENT ACCURACY

TK: 50 ppm/°C  
Accuracy: ±0.2% of range + 1 digit (for projection ±1999)  
±0.3% of range + 1 digit  
±0.6% of range + 1 digit  
Accuracy of cold junction measur.: ±15°C  
Rate: 0.5/1.2/2.5/5/10 measur./s  
Overload capacity: 2x; 10x (t < 30 ms)  
Resolution: 0.1°C (RTD), 1°C (T/C)  
Line compensation: max. 30 Ω (RTD)  
Cold junction compens.: adjustable -20°...99°C or automatic  
Linearization: linear interpol. in 25 points (only via OM Link)  
Digital filters: exponential average, rounding  
Functions: Tare  
OM Link: Company communication interface for operation, setting and update of instruments.  
Watch-dog: reset after 500 ms  
Calibration: at 25°C and 40% r.h.

T/C  
T/C - B

### COMPARATOR

Type: digital, menu adjustable, contact switch-on < 50 ms  
Hysteresis mode: switching limit, hysteresis band „Lim ±1/2Hys.“ and time (±99.9 s) determining the switching delay  
Output: 1..2x Form A relays (250 VAC/30 VDC, 3 A);  
1..2x open collector (30 VDC/100 mA)

### DATA OUTPUTS

Protocol: ASCII, PROFIBUS DP  
Data format: 8 bit + no parity + 1 stop bit (ASCII)  
Rate: 300...230 400 Baud  
9 600 Baud...12 Mbaud (PROFIBUS)  
RS 232: isolated  
RS 485: isolated, addressing (max. 31 instruments)

### ANALOG OUTPUTS

Type: isolated, programmable with resolution of max. 4 000 points, analog output corresponds with the displayed data, type and range are selectable in menu  
Non-linearity: 0.2% of range  
TK: 50 ppm/°C  
Rate: response to change of value < 250 ms  
Ranges: 0...2/5/10 V, 0/4...20 mA (comp. < 600 Ω/12 V)

### EXCITATION

Adjustable: 5...24 VDC/max. 1.2 W, isolated

### POWER SUPPLY

Range: 10...30 V AC/DC, ±10 %, PF ≥ 0.4, I<sub>isp</sub> < 40 A/1 ms, isolated  
80...250 V AC/DC, ±10 %, PF ≥ 0.4, I<sub>isp</sub> < 40 A/1 ms, isolated  
Consumption: < 6.8 W/6.9 VA  
Power supply is protected by a fuse inside the instrument.

### MECHANIC PROPERTIES

Material: Noryl GFN2 SE1, incombustible UL 94 V-1  
Dimensions: 96 x 48 x 120 mm (w x h x d)  
Panel cutout: 90.5 x 45 mm (w x h)

### OPERATING CONDITIONS

Connection: connector terminal blocks, section < 1.5/2.5 mm<sup>2</sup>  
Stabilization period: within 5 minutes after switch-on  
Working temperature: -20°...60°C  
Storage temperature: -20°...85°C  
Protection: IP64 (front panel only)

EI safety: EN 61010-1, A2

Dielectric strength: 4 kVAC per 1 min test between supply and input  
4 kVAC per 1 min test between supply and data/analog output  
4 kVAC per 1 min test between input and relay output

2.5 kVAC per 1 min test between input and data/analog output

Insulation resistance: for pollution degree II, measuring cat. III

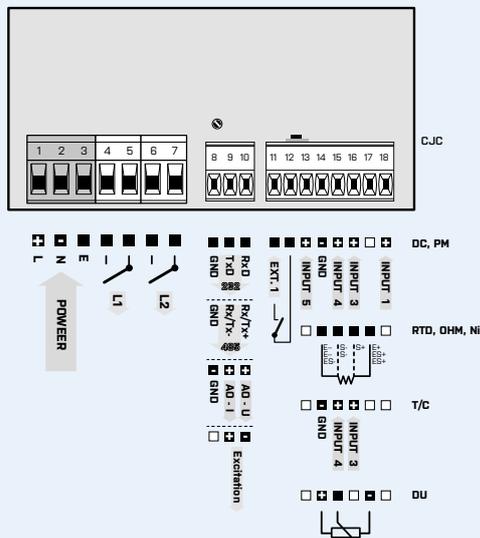
power supply > 670 V (PI), 300 V (DI)

input, output, PN > 300 V (PI), 150 V (DI)

EMC: EN 61326-1

PI - Primary insulation, DI - Double insulation

## CONNECTION



## ORDER CODE

### OM 352UNI

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Power supply	10...30 V AC/DC	<b>0</b>			
	<b>80...250 V AC/DC</b>	<b>1</b>			
Measuring range	Pt 100/300 Ω	<b>A</b>			
	Pt 500/1.5 kΩ	<b>B</b>			
	Pt 1 000/Ni 1 000/3 kΩ	<b>C</b>			
	Ni 10 000/30 kΩ	<b>D</b>			
	on request	<b>Z</b>			
Ranges DC, PM, T/C, DU are always fitted					
Comparators	no	<b>0</b>			
	1x relay (Form A)	<b>1</b>			
	2x relay (Form A)	<b>2</b>			
	1x open collector	<b>3</b>			
	2x open collector	<b>4</b>			
Output	Excitation		<b>1</b>		
	Analog output		<b>2</b>		
	RS 232		<b>3</b>		
	RS 485		<b>4</b>		
	PROFIBUS		<b>6</b>		
Display color	red (14 mm)		<b>1</b>		
	green (14 mm)		<b>2</b>		
	red/green (20 mm)		<b>3</b>		
Specification	customized version, do not fill in				<b>00</b>

Basic configuration of the instrument is indicated in bold.